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824 *tuberosus*), but some other plant might fit the description equally well.
262 Hoebel (10) records three Shoshone food plants the names of which suggest a relationship to the Comanche *paiyap*. The first of these (Shoshone: *yep* or *muhaiyep*) has a single "root," grows in the hills, and is harvested in early March. The second (Shoshone: *ţimbiyep*, that is, "rock *yep*") grows in rocky outcrops. It is of interest to note here that Chamberlain (6, p. 46) gives the Gosiute term *tiṅ-bo-ip* (rock + root + plant) for plants growing over rocks. The third has the Shoshone name *piayep*, meaning "big *yep*," which appears to be the Shoshone equivalent of the Comanche *paiyap;* it is described as having several large tubers.

824 The pod of the mesquite (*Prosopis glandulosa*) contains a con-
252 siderable amount of gummy saccharine material, of which a number
263 of analyses have been made. One of the more recent shows the beans to contain about twenty per cent sugar (28, p. 656). The Comanche
[415] crushed them in a mortar made of buffalo hide, using a pestle of mesquite wood. After the beans were crushed, the seeds were removed and the pods pounded to a fine meal, which was used alone or added to corn meal as a sweetening. A mush was prepared by
[272] mixing mesquite meal with marrow, and a drink (Comanche: *pihi-sawanap*) was made by combining mesquite meal and corn meal in water. Whether or not this drink was allowed to ferment is not mentioned in the notes. The Comanche preparation and uses of
[170] the mesquite beans are almost identical with those of the Apache and the tribes of the Gila region of Arizona (3, pp. 43–44; 4, pp. 41, 53), where the mesquite was a staple food. Among these tribes a fermented beverage was prepared from the mesquite alone or from a mixture of mesquite and corn meal.

824 In times of scarcity the acorns of the blackjack oak (*Quercus*
261 *marilandica*) were eaten. They were shelled and boiled, and might
171 be stored for future use. The Comanche, unlike many other tribes, did not grind them into meal, but ate them whole. Castetter (3, p. 47) reports that certain of the Pueblos also boiled the kernels whole. Acorns were widely used as food by various tribes, particularly in the Southwest, the Southeast, and California, and among some Indians in the latter region they were the major food staple.

The roots of several plants were eaten or chewed merely for their flavor. These seem to have been chiefly in the nature of famine foods and food supplements rather than staples. The roots of a

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thistle (*Cirsium undulatum*), the Comanche name of which was *tsɔn*, were eaten raw. This same species (listed as *Cnicus undulatus*) and others were used in much the same manner by the Gosiute (6, p. 56), who called the plants *tsin'ga* or *tsi'na*. The Snake Indians ate the roots of a thistle (listed as *Cnicus eriocephalus*, 1, p. 10), which they called *tsinah*. Hoebel (10) gives the Shoshone name of another thistle as *tsɔ'ntnə* and states that the root was eaten after being roasted in ashes. Its stalk, while young and tender, was eaten raw, and had the interestingly similar Shoshone name *tsɔ'ngabɔk*. A plant not collected and not seen but described as a water lily furnished edible roots, which were prepared by boiling. Two plants of the water-lily family (Nymphaeaceae) which were widely used by Indians in this manner and which would have been available to the Comanche (23, pp. 144, 145) are the American lotus (*Nelumbo lutea*) and the yellow pond lily (*Nymphaea advena*). The plant in question was probably one of these. The roots of the button snakeroot (*Liatris punctata*) were chewed, the juice being swallowed for its rich fatty taste, and those of the sweet-flavored purple prairie clover (*Petalostemum purpureum*) were likewise relished. The roots of the purple prairie clover and the white prairie clover (*Petalostemum candidum*) were similarly used by the Ponca (7, p. 94); those of another prairie clover (*Petalostemum oligophyllum*) found favor among some of the Pueblo Indians of New Mexico (3, p. 33). The inner bark of a hawthorn (*Crataegus sp.*) was said to serve as a chewing gum.

The nuts of the pecan (*Carya illinoensis*) were eaten fresh or were stored, without preparation, for winter use, as were those of the black walnut (*Juglans nigra*). Native wild pecan trees are plentiful in the rich valleys of the Comanche county and southward, and the nuts were prized by the Indians. They have been adopted as a delicacy by the white man, also, and the produce of both wild and cultivated trees is today an item of considerable economic importance.

Most Indian tribes make considerable use of plants as salads or greens and also steep the leaves in water to prepare various beverages. It is surprising that the Comanche notes do not include a single plant used for greens, and mention only two whose leaves were utilized in making drinks. The leaves of bush clover (*Lespedeza capitata*) were boiled in water to furnish a tea. The other beverage was prepared from the foliage of a plant said to grow in damp places and to have red fruits. This description strongly suggests the mem-

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824 bers of the genus Ilex, which were similarly used. The well-known
262 "black drink" of the Southeastern Indians was prepared from *Ilex*
272 *vomitoria, Ilex cassine,* and perhaps from other species. However, although four species of Ilex are listed for Oklahoma (23, pp. 299–300), their range is given as in the southeastern part of the state, and they perhaps do not occur near the Comanche reservation.

000 Hoebel's notes on the Shoshone (10) contain an interesting item to which we know no parallel. He records the use of a plant (Shoshone: *po'ːintˢ*) which is described as similar to the maidenhair fern (*Adiantum spp.*). The minute orange "seeds [sporangia?] in the leaves" were threshed by rubbing the leaves between the hands, and were then winnowed, ground, and boiled in water for soup.

824 A number of Comanche plant medicines were recorded, for a
278 rather wide variety of ailments. Most of these medicines seem to be in the nature of practical home remedies, and few have anything of magic or of ceremony about them. Chamberlain (6, p. 46) gives the Gosiute term for medicine as *na'-tsu.* It is interesting to note that a number of the Comanche names for important medicines have this ending.

[844] The flowers of the sneezeweed (*Helenium microcephalum*) were broken up and inhaled to induce sneezing as an aid in the expulsion of afterbirth. These flowers were similarly used in clearing the nasal passages. It seems likely that the plant would be effective for such purposes, as it secretes a resin which Stemen and Meyers (23, p. 599) say is poisonous to some people; it causes a skin condition similar to that produced by poison oak (poison ivy). This resin in contact with the nasal membranes would probably induce sneezing.

Two other plants were said to be employed in obstetrical cases.
[841] A tea made from the root of an unidentified plant (Comanche: *pehenatsu*) was drunk to check excessive menstrual discharge. The Arikara also use a root for this purpose, that of the mallow (*Malva coccinea*) triturated with the gum from the chokecherry and given as a drink (8, p. 74). After childbirth the Comanche woman was
[844] laid on a padding of plants of silvery wormwood (*Artemisia filifolia*) over hot coals. No explanation of this procedure was obtained; the plant was widely used, however, both medicinally and ceremonially, throughout the Plains region, and smoke from it was considered effective in purification.